

L Number	Hits	Search Text	DB	Time stamp
5	1	((US-5581691-\$).did.) and (event same generat\$3)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/11/21 16:11
-	1	"20030028858"	USPAT; US-PGPUB	2003/11/20 10:17
-	1	"20030028858"	USPAT; US-PGPUB	2003/11/20 10:17
-	1	debugger and (event same (time-stamp or timestamp)) and (record same database same display\$3) and display\$3	USPAT; US-PGPUB	2003/11/20 10:19
-	1	debugger and (event same (time-stamp or timestamp)) and (record same database same display\$3) and display\$3	USPAT; US-PGPUB	2003/11/20 10:20
-	1	debugger and (event same (time-stamp or timestamp)) and (record same database same display\$3)	USPAT; US-PGPUB	2003/11/20 10:20
-	10	debugger and (event same (time-stamp or timestamp)) and (record same database)	USPAT; US-PGPUB	2003/11/20 11:32
-	11	"5819270"	USPAT; US-PGPUB	2003/11/20 11:32
-	6	(US-5581691-\$ or US-5446878-\$ or US-5168554-\$ or US-5819270-\$).did. or (US-20030028858-\$ or US-20020194393-\$).did.	USPAT; US-PGPUB	2003/11/20 14:28
-	1058	event and (time-stamp\$3 or timestamp\$3) and event and record and database	USPAT	2003/11/20 14:30
-	0	event and (time-stamp\$3 or timestamp\$3) and event and record and database and US-20020194393-A1.DID.	USPAT	2003/11/20 14:30
-	0	event and (time-stamp\$3 or timestamp\$3) and database and US-20020194393-A1.DID.	USPAT	2003/11/20 14:31
-	0	event and (time-stamp\$3 or timestamp\$3) and US-20020194393-A1.DID.	USPAT	2003/11/20 14:31
-	0	(time-stamp\$3 or timestamp\$3) and US-20020194393-A1.DID.	USPAT	2003/11/20 14:31
-	0	(time-stamp\$3) and US-20020194393-A1.DID.	USPAT	2003/11/20 15:18
-	0	event and database and US-20020194393-A1.DID.	USPAT	2003/11/20 15:18
-	0	event and log and US-20020194393-A1.DID.	USPAT	2003/11/20 15:18
-	2	event and log and ((US-5581691-\$ or US-5446878-\$ or US-5168554-\$ or US-5819270-\$).did. or (US-20030028858-\$ or US-20020194393-\$).did.)	USPAT	2003/11/20 15:18
-	0	(time-stamp\$3) and ((US-5581691-\$ or US-5446878-\$ or US-5168554-\$ or US-5819270-\$).did. or (US-20030028858-\$ or US-20020194393-\$).did.)	USPAT	2003/11/20 15:18
-	3	event and database and ((US-5581691-\$ or US-5446878-\$ or US-5168554-\$ or US-5819270-\$).did. or (US-20030028858-\$ or US-20020194393-\$).did.)	USPAT	2003/11/20 15:18
-	2	event and database and ((US-5581691-\$ or US-5446878-\$ or US-5168554-\$ or US-5819270-\$).did. or (US-20030028858-\$ or US-20020194393-\$).did.) and log	USPAT	2003/11/20 15:20
-	2	event and database and ((US-5581691-\$ or US-5446878-\$ or US-5168554-\$ or US-5819270-\$).did. or (US-20030028858-\$ or US-20020194393-\$).did.) and log and time	USPAT	2003/11/20 15:21
-	2	event and database and ((US-5581691-\$ or US-5446878-\$ or US-5168554-\$ or US-5819270-\$).did. or (US-20030028858-\$ or US-20020194393-\$).did.) and log and timestamp	USPAT	2003/11/20 18:05
-	1	"20030152907"	USPAT; US-PGPUB	2003/11/20 18:06

-	6	(US-5581691-\$ or US-5446878-\$ or US-5168554-\$ or US-5819270-\$).did. or (US-20030028858-\$ or US-20020194393-\$).did.	USPAT; US-PGPUB	2003/11/21 11:57
-	2	((US-5581691-\$ or US-5446878-\$ or US-5168554-\$ or US-5819270-\$).did. or (US-20030028858-\$ or US-20020194393-\$).did.) and (design\$3 with level)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/11/21 14:30
-	8	((US-5581691-\$ or US-5446878-\$ or US-5168554-\$ or US-5819270-\$).did. or (US-20030028858-\$ or US-20020194393-\$).did.) and (embed\$4)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/11/21 16:10



US Patent & Trademark Office

[Subscribe](#) (Full Service) [Register](#) (Limited Service, Free) [Login](#)Search: ☒ The ACM Digital Library ☐ The Guide

THE ACM DIGITAL LIBRARY

[Feedback](#) [Report a problem](#) [Satisfaction survey](#)

A distributed debugger for Amoeba

Full text  Pdf (1.15 MB)

Source [Workshop on Parallel & Distributed Debugging](#) [archive](#)
Proceedings of the 1988 ACM SIGPLAN and SIGOPS workshop on Parallel and distributed debugging [table of contents](#)
Madison, Wisconsin, United States
Pages: 1 - 10
Year of Publication: 1989
ISSN:0362-1340
[Also published in ...](#)

Author [I. J. P. Elshoff](#)**Sponsors** [SIGPLAN](#): ACM Special Interest Group on Programming Languages
[SIGOPS](#): ACM Special Interest Group on Operating Systems**Publisher** ACM Press New York, NY, USA**Additional Information:** [abstract](#) [references](#) [citations](#) [index terms](#) [review](#) [collaborative colleagues](#)**Tools and Actions:** [Discussions](#) [Find similar Articles](#) [Review this Article](#)
[Save this Article to a Binder](#) [Display in BibTex Format](#)**DOI Bookmark:** Use this link to bookmark this Article: <http://doi.acm.org/10.1145/68210.69216>
[What is a DOI?](#)

↑ ABSTRACT

We describe a debugger that is being developed for distributed programs in Amoeba. A major goal in our work is to make the debugger independent of the Amoeba kernel. Our design integrates many facilities found in other debuggers, such as execution replay, breakpointing, and an event-based view of the execution of the target program. This paper discusses the influence of Amoeba's architecture on the attainability of our goals and the desired functionality of the debugger. We also consider such problems as how to deal with timeouts and interactions between the target program and its environment.

↑ REFERENCES

Note: OCR errors may be found in this Reference List extracted from the full text article. ACM has opted to expose the complete List rather than only correct and linked references.

1 F. BAIARDI, N. DE FRANCISCO, E. MATTE-OLI, S. STEFANINI, AND G. VAGLINI, "Development of a Debugger for a Concurrent Language," SIGPLAN Notices, 18 (8), 98-106 (August 1983).

2 PETER C. BATES AND JACK C. WILEDEN, "High-Level Debugging of Distributed Systems: The Behavioral Abstraction Approach," Journal of Systems ~ Software, 3 (4), 255-264 (1983).

- 3 K. Mani Chandy, Leslie Lamport, Distributed snapshots: determining global states of distributed systems, ACM Transactions on Computer Systems (TOCS), v.3 n.1, p.63-75, Feb. 1985
- 4 ROBERT COOPER, "Pilgrim: A Debugger for Distributed Systems," Proceedings of the 7th International Conference on Distributed Computing Systems, Berlin BRD, 458-465 (21-25 September 1987).
- 5 PAVL K. HARTER, DENNIS HramBIGNeA, AND ROGER KING, "IDD" An Interactive Distributed Debugger," Proceedings of the 5th International Conference on Distributed Computing Systems, Denver Colorado, 498-506 (13-17 May 1985).
- 6 Jeffrey Joyce, Greg Lomow, Konrad Slind, Brian Unger, Monitoring distributed systems, ACM Transactions on Computer Systems (TOCS), v.5 n.2, p.121-150, May 1987
- 7 T. J. LeBlanc, J. M. Mellor-Crummey, Debugging parallel programs with instant replay, IEEE Transactions on Computers, v.36 n.4, p.471-482, April 1987
- 8 SAPE J. MULLENDER AND A.S. TANENBAUM, "The Design of a Capability-Based Distributed Operating System," The Computer Journal, 20 (4), 289-300 (March 1986).
- 9 NAPE J. MULLENDER., ET AL, "Amoeba Kernel 4.0 Specification," Internal CWI document, (16 December 1987).
- 10 EDWARD T. SMITH, "A Debugger for Message- Based Processes," Software Practice & Experience, 15 (11), 107a- 086 (November 1985).

↑ CITINGS 6

- J. M. Mellor-Crummey, T. J. LeBlanc, A software instruction counter, ACM SIGARCH Computer Architecture News, v.17 n.2, p.78-86, April 1989
- Gerald M. Karam, Visualization using timelines, Proceedings of the 1994 international symposium on Software testing and analysis, p.125-137, August 17-19, 1994, Seattle, Washington, United States
- Bernd Bruegge, A portable platform for distributed event environments, ACM SIGPLAN Notices, v.26 n.12, p.184-193, Dec. 1991
- Suresh K. Damodaran-Kamal, Joan M. Francioni, Testing races in parallel programs with an OtOt strategy, Proceedings of the 1994 international symposium on Software testing and analysis, p.216-227, August 17-19, 1994, Seattle, Washington, United States
- Charles E. McDowell, David P. Helmbold, Debugging concurrent programs, ACM Computing Surveys (CSUR), v.21 n.4, p.593-622, Dec. 1989
- D. Y. Cheng, HDB-a high level debugging, Proceedings of the 1989 ACM/IEEE conference on Supercomputing, p.568-573, November 12-17, 1989, Reno, Nevada, United States

↑ INDEX TERMS

Primary Classification:

D. Software

↳ D.2 SOFTWARE ENGINEERING